

# Arsenic Rule Jeopardy

By the book	Go with the flow	Extra, extra	Red light, green light	Ballyhoo
<u>\$100</u>	<u>\$100</u>	<u>\$100</u>	<u>\$100</u>	<u>\$100</u>
<u>\$200</u>	<u>\$200</u>	<u>\$200</u>	<u>\$200</u>	<u>\$200</u>
<u>\$300</u>	<u>\$300</u>	<u>\$300</u>	<u>\$300</u>	<u>\$300</u>
<u>\$400</u>	<u>\$400</u>	<u>\$400</u>	<u>\$400</u>	<u>\$400</u>
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A drinking water  
concentration of 10 ppb.

What is the revised MCL?



The statutory authority under which the Arsenic Rule was promulgated.

What is the Safe Drinking  
Water Act?



January 23, 2006



What is the compliance date  
of the revised MCL?



A drinking water concentration  
of 0 ppb.

What is the MCLG?



DOUBLE

Because EPA has determined  
that SSCTs exist for all three  
system size categories,  
\_\_\_\_\_ are not available.

What are small system variances?

(They may be eligible for a general variance if: the system installs a BAT, the State determines an alternative source of water was not available AND the quality of water delivered will not result in an URTH.)



At each entry point to the  
distribution system

Where do systems need to  
sample?





Ground water systems with samples that show arsenic levels below the MCL must take a routine sample once every \_\_\_\_.

What is three years?

(Surface water systems  
must sample annually.)



The frequency of monitoring a system must complete if a sampling point result exceeds the MCL.

What is quarterly?

(A system triggered into increased monitoring will not be considered in violation until they have completed one year of quarterly sampling unless one sample would cause the RAA to exceed the MCL.)



Ground water systems must complete their initial monitoring requirements by this date.

# What is December 31, 2007?

(Surface water systems must complete initial monitoring by December 31, 2006. However, US EPA encourages systems to monitor early in order to secure funds for any necessary treatment or non-treatment mitigation strategies.)



This monitoring period of the Phase II/V standardized monitoring framework is the first under the revised MCL.

What is the 2005-2007  
monitoring period?





The database standard for  
reporting violations to EPA.

What is  
SDWIS/FED?



This way to satisfy initial monitoring requirements for ground water systems must be completed between January 1, 2005 and January 23, 2006.

What is grandfathering of data?

(Surface water systems may grandfather data collected between January 1, 2006 and January 23, 2006.)



Arsenic sampling results  
must be reported to the  
nearest \_\_\_\_\_.

What is 0.001 mg/L?



A State granting an exemption or variance must determine that it will not result in an \_\_\_\_\_.

What is an “URTH” or  
unreasonable risk to health?





When following this technique, the laboratory must use a method with a detection limit of 0.002 mg/L and the result must be less than 1/5 of the MCL.

What is compositing?

(States may allow systems to composite up to 5 samples. A follow-up sample at each EPTDS will then be used to determine compliance.)



The type of mathematical calculation that will be used to determine compliance at each sampling point.

What is the running annual average?

(If any one sample will cause the RAA to exceed the MCL, then the system is immediately out of compliance with the MCL.)



A system is characterized as a \_\_\_\_\_ if it receives a violation in two consecutive monitoring periods.

What is a SNC or significant non-complier?



Activated Alumina,  
Coagulation/Filtration,  
Ion Exchange,  
Lime Softening,  
Reverse Osmosis,  
Electrodialysis,  
Oxidation/Filtration

What are the Best Available Technologies (BATs) for removal of arsenic in drinking water?





A system must have all previous data below the MCL, must have data for at least three previous sampling periods, and must take at least one sample in a nine year period if a state grants this.

What is a monitoring  
waiver?



This analytical method was withdrawn from the approved list for determining compliance with the revised MCL.

What is ICP (EPA Method 200.7  
and Standard Method 3120B)?



Community Water Systems (CWSs)  
and Nontransient, Noncommunity  
Water Systems (NTNCWSs)

To whom does the Arsenic  
Rule apply?



Lung and bladder cancer

What are two chronic health effects of arsenic toxicity?





CWSs and NTNCWSs have 30 days to provide this public notice for an Arsenic MCL violation.

What is a Tier 2 public notice?

(A Tier 2 public notice is also required when a system fails to comply with the terms or schedule of a variance or exemption. )



Public education is crucial to the success of a \_\_\_\_ or \_\_\_\_ strategy. The system must be able to obtain regular access to these treatment units to perform maintenance and monitoring.

What are Point-of-Use and  
Point-of-Entry treatment  
devices?



Concentration range for which a health effects statement must be included in a CCR published between February 22, 2002 and January 22, 2006.

What is 0.010 mg/L and up to and including 0.05 mg/L?

(An informational statement must be included in all CCRs published after February 22, 2002 for concentrations from 0.005 mg/L and up to and including 0.010 mg/L.)



# Final Challenge

**Compliance  
Determination**

Write down  
your wager!



A system monitored for arsenic on May 10, 2005. The result was 25 ppb. The state grandfathered this value and put the system on quarterly monitoring. The next sample was collected on August 10, 2005, with a result of 31. The system is expected to monitor again in November 2005 and again in February 2006. Will this system be in violation on January 23, 2006?



Write down  
your answer!

Yes, because the state chose to grandfather the initial monitoring result and it was above the revised MCL, causing an immediate violation on the compliance date.



# Arsenic in Drinking Water

<http://www.epa.gov/safewater/arsenic.html>

Get help with:

- Understanding regulatory requirements
- Selecting a treatment technology
- Finding vendors and evaluating their claims
- Classifying your waste stream

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